

A Summary of Research Projects
with the
Agricultural Experiment Station
FY 1980



Agricultural Experiment Station
University of Alaska
Fairbanks, Alaska 99701

James V. Drew, Director

AGRICULTURAL RESEARCH

**UNIVERSITY OF ALASKA, FAIRBANKS
UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING**

A Summary of Research Projects with the Agricultural Experiment Station, FY 1980

Fairbanks Research Center
Palmer Research Center
Homer Research Center

July 1, 1980

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INTRODUCTION

The purpose of this report is to outline the research projects of the Alaska Agricultural Experiment Station for the 1980 Fiscal year (from July 1, 1979 to June 30, 1980). In addition, the report summarizes these projects in terms of the sources and distribution of funds, expenditures by major functions, state goals, national goals, and national research problem areas.

The financial data given in this report represent the amounts expended for individual projects. In general, the financial data presented are based on the University's accounting system. The dollar amounts should not be taken as an official accounting, but rather as an index of the distribution of funds by research areas. The scientist years (SYs) are estimates of time committed by the professional staff for all projects and include SYs reported in the CRIS system.

INDEX OF STAFF AND DISCIPLINES, FY 1980

Administration:

Project Page(s)

J. V. Drew, Ph.D.	Director	46, 54, 65, 66
S. H. Restad, M.S.	Assistant Director	65, 66, 67, 68, 69, 74
C. W. Hartman	Executive Officer	65
M. S. Murray	Experiment Station, Editor	69
L. J. Klebesadel*, Ph.D.	AR/SEA Research Leader	
R. L. Taylor*, M.S.	AR/SEA Location Leader	

Research Staff:

L. D. Allen, M.S.	Associate Professor, Agricultural Engineering	17, 42, 82
A. L. Brundage, Ph.D.	Professor, Animal Science	38, 39, 42, 70, 82
C. H. Dearborn*, Ph.D.	Research Horticulturist	33
D. H. Dinkel, Ph.D.	Professor, Plant Physiology	32, 34, 61
J. D. Fox, Ph.D.	Assistant Professor, Resource Management	
A. F. Gasbarro, M.S.	Instructor, Forestry	79, 81
F. M. Husby, Ph.D.	Associate Professor, Animal Science	29, 30, 39, 40, 41, 45
A. Jubenville, Ph.D.	Associate Professor, Resource Management	58, 59, 60
L. J. Klebesadel*, Ph.D.	Research Agronomist	24
C. W. Knight, M.S.	Instructor, Agronomy	35, 55, 56, 82
W. M. Laughlin*, Ph.D.	Research Soil Scientist	15
C. E. Lewis, Ph.D.	Associate Professor, Resource Mananagement	37, 45, 54, 55
J. H. McBeath	Associate Professor, Plant Pathology	56
J. D. McKendrick, Ph.D.	Associate Professor, Agronomy	17, 18, 21, 26, 27, 60, 81
B. H. Mickelson	Instructor	80
G. A. Mitchell, Jr. Ph.D.	Assistant Professor, Agronomy	14, 81
W. W. Mitchell, Ph.D.	Professor, Agronomy	13, 14, 25, 42, 50, 57, 58
B. J. Neiland, Ph.D.	Professor, Botany	22, 56, 57, 61
W. R. Pfisterer	Instructor	80
A. Peischel	Instructor, Animal Science	75
R. L. Taylor*, M.S.	Research Agronomist	24, 36
W. C. Thomas, Ph.D.	Associate Professor, Economics	48, 52, 80
K. Van Cleve, Ph.D.	Professor, Forestry (Soils)	16, 18, 19, 20, 21, 23, 24
R. B. Weeden	Professor of Resource Management and Wildlife	79, 81
F. J. Wooding, Ph.D.	Associate Professor, Agronomy	15, 34, 36, 45, 55
W. G. Workman, Ph.D.	Associate Professor, Economics	16, 52, 59

*Agricultural Research, Science and Education Administration, USDA Cooperating

SOURCE AND DISTRIBUTION OF FUNDS, FY 1980

Funding Source	Salary*	Other**	Salary Plus Other	Percent of Total
State	\$1,318,488	\$ 709,020	\$2,027,508	44.7
Hatch	381,734	196,981	578,715	12.7
Hatch Regional	72,269	29,564	101,833	2.2
McIntire-Stennis	54,389	99,230	153,619	3.3
AR/SEA	196,650	101,150	297,800	6.6
Coop Agreement	195,990	38,910	234,900	5.2
Title V, RDA	6,037	1,003	7,040	.2
Grants & Contracts	588,217	550,533	1,138,750	25.1
TOTAL	\$2,813,774	\$1,726,391	\$4,450,165	100.1

*Does not include benefits.

**Personnel benefits, travel, supplies, equipment, contractual services, postage and freight.

GRANTS AND CONTRACTS BY SOURCE AND AMOUNT, FY 1980

State of Alaska:

Department of Natural Resources	\$ 64,816
CETA	118,792
Office of the Governor	83,630
Department of Commerce and Economic Development	15,390
Department of Health, Education and Welfare	45,839

Federal:

Soil Conservation Service	92,087
Forest Service	116,373
Sea Grant	47,163
National Science Foundation	102,208
CR, SEA Special Grants	129,727
Department of Energy	19,279
Bureau of Indian Affairs	30,203
Office of Surface Mining	7,369

Other:

Alyeska Pipeline Service Company	163,305
Hewlett Foundation	10,155
University of Illinois	14,521
Terrestrial Environmental Specialists, Inc.	77,590
Alaska Humanities Forum	303

TOTAL	\$1,138,750
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SUMMARY OF EXPENDITURE BY MAJOR FUNCTION

Function	Salary	Other	Salary Plus Other	Percent of Total
Research Projects	\$1,897,291	\$1,099,812	\$2,997,103	66.0
Administration	466,361	223,124	689,485	15.2
Maintenance	298,480	326,078	624,558	13.8
Service Projects	151,642	77,377	229,019	5.0
TOTAL	\$2,813,774	\$1,726,391	\$4,540,165	100.0

RESEARCH PROJECTS

**SUMMARY OF RESEARCH PROJECT EXPENDITURES
BY SOURCE AND AMOUNT, FY 1980**

<u>Funding Sources</u>	<u>Salary</u>	<u>Other</u>	<u>Salary Plus Other</u>	<u>Percentage of Total</u>
State	\$ 640,318	\$ 188,837	\$ 829,155	27.7*
Hatch	334,723	167,373	502,096	16.8
Hatch Regional	68,284	23,824	92,108	3.1
Federal	169,050	83,550	252,600	8.4
Coop. Agreement	195,990	38,910	234,900	7.8
McIntire-Stennis	54,389	99,230	153,619	5.1
Title V	6,037	1,003	7,040	0.1
Grants & Contracts	428,500	497,085	925,585	31.0
TOTAL	\$1,897,291	\$1,099,812	\$2,997,103	100.0

**DISTRIBUTION OF RESEARCH PROJECT EXPENDITURES
BY STATE GOALS, FY 1980**

		Amount	%
Goal 1:	Increase the efficiency of production systems for food and wood products, including energy conservation and the development of new lands	\$1,989,756	66.3
Goal 2:	Improve processing, transportation and marketing of food and wood products in Alaska for markets in Alaska and for export	136,132	4.6
Goal 3:	Improve resource inventories and develop land-use planning for agriculture and forestry that will enhance environmental quality	258,501	8.6
Goal 4:	Develop resource management for improving the quality of life, including revegetation procedures, landscaping and home gardening, and outdoor recreation	612,714	20.5
	TOTAL	\$2,997,103	100.0

**DISTRIBUTION OF RESEARCH PROJECT EXPENDITURES
BY NATIONAL GOALS, FY 1980**

			Amount	%
Goal I:	Insure a stable and productive agriculture for the future through wise management of natural resources			
		TOTAL	\$1,204,434	40.1
	RPA* 101	Appraisal of Soil Resources	21,776	
	RPA 102	Soil, Plant, Water Nutrient Relationship	208,174	
	RPA 104	Alternative Uses of Land	30,362	
	RPA 107	Watershed Protection and Management	18,438	
	RPA 109	Adaptation to Weather and Weather Modification	55,521	
	RPA 110	Appraisal of Forest and Range Resources	41,300	
	RPA 111	Biology, Culture and Management of Forests and Timber-Related Crops	456,636	
	RPA 112	Improvement of Range Resources	355,961	
	RPA 113	Remote Sensing	16,266	
Goal II:	Protect forests, crops and livestock from insects, diseases and other hazards			
		TOTAL	\$ 61,525	2.1
	RPA 209	Control of Weeds and Other Hazards of Field Crops and Range	5,300	
	RPA 211	Control of Diseases of Livestock, Poultry and Other Animals	56,225	
Goal III:	Produce an adequate supply of farm and forest products at decreasing real production costs			
		TOTAL	\$1,042,240	34.8
	RPA 304	Improvement of Biological Efficiency of Fruit and Vegetable Crops	200,875	
	RPA 305	Mechanization of Fruit and Vegetable Crop Production	44,149	
	RPA 307	Improvement of Biological Efficiency of Field Crops	151,101	
	RPA 309	Production Management Systems for Field Crops	39,639	
	RPA 311	Improvement of Biological Efficiency in Production of Livestock, Poultry and Other Animals	491,505	
	RPA 313	Production Management Systems for Livestock, Poultry and Other Animals	77,418	
	RPA 315	Improvement of Structure, Facilities and General Purpose Farm Supplies and Equipment	37,553	
Goal IV:	Expand the demand for farm and forest products by developing new and improved products and processes and enhancing product quality		0	0

* USDA National Research Problem Areas

			Amount	%
Goal V:	Improve efficiency in the marketing system			
		TOTAL	\$ 46,792	1.5
	RPA*	501 Improvement of Grades and Standards – Crops and Animal Products	8,108	
	RPA	503 Efficiency in Marketing Agricultural Products and Production Inputs	8,481	
	RPA	509 Performance of Marketing Systems	30,203	
Goal VI:	Expand export markets and assist developing nations			
		TOTAL	\$ 89,340	3.0
	RPA	601 Foreign Market Development	89,340	
Goal VII:	Protect consumer health and improve nutrition and well-being of the American people			
		TOTAL	\$ 5,415	0.2
	RPA	701 Insure Food Products Free of Toxic Contaminants Including Residues from Agricultural and Other Sources	5,415	
Goal VIII:	Assist rural Americans to improve their level of living			
		TOTAL	\$ 7,343	0.2
	RPA	804 Improvement of Economic Potential of Rural People	7,343	
Goal IX:	Promote community improvement including development of beauty, recreation, environment, economic opportunity, and public service			
		TOTAL	\$ 540,014	18.1
	RPA	901 Alleviation of Soil, Water and Air Pollution and Disposal of Wastes	184,076	
	RPA	902 Outdoor Recreation	72,456	
	RPA	903 Multiple Use Potential of Forest Land and Evaluation of Forestry Programs	74,424	
	RPA	905 Trees to Enhance Rural and Urban Environment	163,305	
	RPA	906 Culture and Protection of Ornamentals and Turf	45,753	
		TOTAL – All Goals	\$2,997,103	100.0

* USDA National Research Problem Areas

NATIONAL GOAL I

Insure a stable and productive agriculture for the future through wise management of Natural Resources.

Funding Sources	Salary	Other	Salary Plus Other	Percentage of Total
State	\$ 285,895	\$ 81,835	\$ 367,730	30.5
Hatch	48,947	23,687	72,634	6.0
Hatch Regional	19,750	5,070	24,820	2.0
McIntire-Stennis	41,698	96,195	137,893	11.4
Federal	123,000	58,050	181,050	15.0
Coop. Agreement	120,564	23,886	144,450	12.1
Grants & Contracts	137,999	137,858	275,857	23.0
TOTAL	\$ 777,853	\$ 426,581	\$ 1,204,434	100.0

Title: Soil-Range Surveys.

Acct. No.: 4386-2-20492

National Goal: I, RPA: 101

State Goal: 3

Termination: 9/30/79
SYs 0.1

Principal Investigator: W. Mitchell

Project Description: This is a cooperative project with the U. S. Soil Conservation Service in developing a Soil-Range Survey including soils mapping and vegetative mapping of approximately 2 million acres on the Seward Peninsula.

Funding Source:	Salary	Other	Total
U. S. Soil Conservation Service	\$10,929	\$ 6,097	\$17,026

Title: Cooperative Soil-Range Surveys on the Seward Peninsula.

Acct. No.: 4386-2-20513

National Goal: I, RPA: 101

State Goal: 3

Termination: 2/28/81
SYs 0.1

Principal Investigator: P. Scorup

Project Description: This is a cooperative project with the Soil Conservation Service, the Bureau of Land Management and the Geophysical Institute with a primary objective to complete soil and range surveys for all reindeer grazing allotments on the Seward Peninsula. Landsat imagery, computer data, and color infrared photographs are being utilized to obtain range composition and yield data, develop range site descriptions, and produce maps. Data from this project will ultimately be used to develop comprehensive range management plans for the reindeer industry.

Funding Source:	Salary	Other	Total
U.S. Soil Conservation Service	\$ 2,505	\$ 1,330	\$ 3,835

Title: Fertility Evaluation and Improvement of Alaskan Soils.

Acct. No.: 4368-1-44406, 4386-2-34882

National Goal: I, RPA: 102

State Goal: 1

Termination: 9/30/81
SYs 0.4

Principal Investigator: G. Mitchell

Project Description: To develop and correlate soil nutrient extractants with plant responses for Alaskan conditions. To survey the fertility status of remote Alaskan soils as an aid in evaluating their agricultural potential. To relate (for specific soil types) under field conditions appropriate composition and quantities of required fertilizer.

Funding Sources:	Salary	Other	Total
State	\$ 9,482	\$ 1,750	\$11,232
Hatch	11,294	6,746	18,040
Total	\$20,776	\$ 8,496	\$29,272

Title: Susitna River Basin Study.

Acct. No.: 4386-2-20464

National Goal: I, RPA: 101

State Goal: 3

Termination: 6/30/84
SYs 0.0

Principal Investigator: W. Mitchell

Project Description: This project consists of cooperative research with the Susitna River Basin Study Program. The lead agency is the Soil Conservation Service; AES cooperates with work on analysis and mapping of soils and vegetation.

Funding Source:	Salary	Other	Total
U.S. Soil Conservation Service	\$ 598	\$ 317	\$ 915

Title: Soil Fertilizer and Lime Requirements for Crop Production on Alaskan Soils.

Acct. No.: AR/SEA WRU3611-20780, 4386-2-34857

National Goal: I, RPA: 102

State Goal: 1

Termination: 1980
SYs 1.0

Principal Investigator: W. Laughlin

Project Description: Develop better ways to manage fertilizers, lime and minor elements for high yields and nutritional crop quality.

Funding Sources:	Salary	Other	Total
Federal	\$ 61,300	\$ 26,900	\$ 88,200
Coop. Agreement	38,300	7,200	46,000
Total	\$100,100	\$ 34,100	\$134,200

Title: Soil Fertility Research for the Delta Agricultural Project

Acct. No.: 4386-2-27244

National Goal: I, RPA: 102

State Goal: 1

Termination: 4/30/80
SYs 0.1

Principal Investigator: F. Wooding

Project Description: The response of barley to nitrogen and phosphorus fertilizers is being studied on newly cleared land. The objective of this research is to develop meaningful fertilizer recommendations for farmers which are based on crop response in the field and soil test data. The study was established on Volkmar silt loam with nitrogen rates of 0, 30, 60, 90, and 120 lbs. N/acre and phosphorus rates of 0, 30, 60, 90, and 120 lbs. P₂O₅/acre. The experimental design is a complete factorial arranged in a randomized complete block.

Funding Source:	Salary	Other	Total
State of Alaska, Office of the Governor	\$ 17,633	\$ 27,069	\$ 44,702

Title: Private Land Use in Alaska.

Acct. No.: 4381-1-4416

National Goal: I, RPA: 104

State Goal: 3 SYs 0.3

Principal Investigator: W. Workman

Project Description: Examination of efficiency and equity implications of various institutions affecting private land use in Alaska.

Funding Source:	Salary	Other	Total
State:	\$ 25,054	\$ 5,308	\$ 30,362

Title: Aquatic Chemistry of Selected Subarctic Catchments.

Acct. No.: 4253-2-20503

National Goal: I, RPA: 107

State Goal: 4 Termination: 8/1/80
SYs 0.0

Principal Investigator: K. Van Cleve

Project Description: A chemical analysis of subarctic headwater streams.

Funding Source:	Salary	Other	Total
U.S. Forest Service	\$ 12,112	\$ 6,326	\$ 18,438

Title:; Environmental Conditions Affecting Crop Growth in Alaska.

Acct. No.: 4386-1-44390, 4386-2-34878
4386-2-34872 (NC-94)

National Goal: I, RPA: 109

State Goal: 3

Termination: 6/30/79
SYs 0.4

Principal Investigator: L. Allen

Project Description: To relate observed weather parameters to plant development, yield and quality. To define mathematical models for predicting development, yield and quality. To evaluate methods of improving the plant micro-environment.

Funding Sources:	Salary	Other	Total
State	\$ 22,986	\$ 3,410	\$ 26,396
Hatch	1,553	2,752	4,305
Hatch Regional	19,750	5,070	24,820
Total	\$ 44,289	\$ 11,232	\$ 55,521

Title: Range Resource Appraisal for Improved Management.

Acct. No.: 4386-1-44386

National Goal: I, RPA: 110

State Goal: 3

SYs 0.5

Principal Investigator: J. McKendrick

Project Description: This project is designed to acquire data on the production and carrying capacity of the major range types in the southcentral Alaska region. Changes in seasonal forage quality and changes in animal forage preferences as well as animal performances will be determined.

Funding Source:	Salary	Other	Total
State	\$ 23,051	\$ 4,883	\$ 27,934

Title: Range Types and Productivity for Ungulates in Portions of the Cook Inlet Basin, Alaska.

Acct. No.: 4377-2-34868

National Goal: I, RPA: 110

State Goal: 3

Termination: 10/10/80
SYs 0.0

Principal Investigator: J. McKendrick

Project Description: Ungulate range types in the boreal forest and alpine zones in a section of Cook Inlet Basin, Alaska, will be measured to provide a basis for calculating a range resource inventory.

Funding Source:	Salary	Other	Total
McIntire-Stennis	\$ 11,969	\$ 1,397	\$ 13,366

Title: Nutrient Cycling in Selected Interior Alaska Forest Types.

Acct. No.: 4377-2-34867

National Goal: I, RPA: 111

State Goal: 1

Termination: 9/30/80
SYs 0.1

Principal Investigator: K. Van Cleve

Project Description: Establish the distribution of biomass and the cycle of certain chemical elements with selected age classes of birch, aspen, white spruce, and black spruce. Assess the effect of artificial amendments on tree growth in birch, aspen, white spruce, and black spruce.

Funding Source:	Salary	Other	Total
McIntire-Stennis	\$29,729	\$94,798	\$124,527

Title: An Experimental and Comparative Investigation into Factors Controlling Rates of Decay and Nitrogen Dynamics of Forest Litter

Acct. No.: 4253-2-28911

National Goal: I, RPA: 111

State Goal: I

Termination: 4/30/82
SYs 0.1

Principal Investigator: K. Van Cleve

Project Description: The forest floor is an important compartment with regard to the cycling of nutrient elements critical for tree growth. Decomposition of forest floor organic matter is associated with release of plant nutrients and in particular nitrogen. Nitrogen probably is the most important element limiting tree growth in subarctic Alaska. Understanding the control which environmental parameters such as temperature and moisture exert over decomposition and nitrogen release will substantially increase our understanding of factors responsible for supply of nutrients for tree growth.

Funding Source:	Salary	Other	Total
National Science Foundation	\$4,499	\$3,883	\$8,382

Title: Role of Metal Chelates in Nutrient Mobility in Subarctic Alaskan Forest Soils.

Acct. No.: 4292-2-34663

National Goal: I, RPA: 111

State Goal: 1

Termination: 1/31/81
SYs 0.3

Principal Investigator: R. Candler

Project Description: Isolate and identify natural chelates from soils that are suspected to be important in plant nutrition. Soil extracts from Birch and Aspen stands are compared.

Funding Source:	Salary	Other	Total
National Science Foundation	\$21,066	\$14,562	\$35,628

Title: Preliminary Site Productivity Determination for Black Cottonwood and Balsam Poplar in Interior Alaska.

Acct. No.: 4253-2-20515

National Goal: I, RPA: 111

State Goal: 1

Termination: 10/1/81
SYs 0.1

Principal Investigator: K. Van Cleve

Project Description: Cottonwood is rapid growing in interior Alaska. At this time, no information is available on growth and yield for this species. Development of productivity information in the form of growth and yield takes will greatly expand our understanding of forest growth in general and provide critical information for this tree species.

Funding Source:	Salary	Other	Total
U.S. Forest Service	\$4,732	\$6,780	\$11,512

Title: Forest Productivity and Site Quality in the Upper Yukon River Drainage.

Acct. No.: 4381-2-20493

National Goal: I, RPA: 111

State Goal: 1

Termination: 10/1/80
SYs 0.1

Principal Investigator: K. Van Cleve

Project Description: This project was designed to investigate the environmental controls on taiga forest production on an extensive basis. The ideas tested were investigated intensively in the Fairbanks area. The extensive project was then used to verify the broad scale regional affects of the production controlling variables.

Funding Sources:	Salaries	Others	Total
U.S. Forest Service	\$21,949	\$11,848	\$33,797

Title: Natural Revegetation of Placer Mined Lands.

Acct. No.: 4461-2-34770

National Goal: I, RPA: 111

State Goal: 4

Termination: 9/30/79
SYs 0.0

Principal Investigator: J. McKendrick

Project Description: Evaluating the natural revegetation progress that has taken place on placer mined lands of interior Alaska in order to make better recommendations for the management of future disturbances caused by mining operations.

Funding Source:	Salary	Other	Total
USDI, Office of Surface Mining	\$2,631	\$4,738	\$7,369

Title: A Final Bibliography of Fire Effects Literature for the Tundra and Taiga of Alaska and Adjacent Canada.

Acct. No.: 4253-2-20486

National Goal: I, RPA: 111

State Goal: 4

Termination: 6/30/80
SYs 0.1

Principal Investigator: K. Van Cleve

Project Description: Establish bibliography on impact of fire in subarctic forest ecosystems in circumpolar boreal forests.

Funding Source:	Salary	Other	Total
U.S. Forest Service	\$10,667	\$3,447	\$14,114

Title: Artificial Regeneration of Trees and Shrubs Following Prescribed Fire.

Acct. No.: 4381-2-20489

National Goal: I, RPA: 111

State Goal: 4

Termination: 5/31/81
SYs 0.1

Principal Investigator: B. Neiland

Project Description: To determine the germination success and patterns and first year survival of artificially seeded black spruce, white spruce, birch, alder, willow, and aspen on sites burned to various degrees of severity, and the first year survival of planted black spruce, aspen and willow seedlings, and willow cuttings planted on sites burned to various degrees of severity.

Funding Source:	Salary	Other	Total
U.S. Forest Service	\$6,868	\$1,329	\$8,197

Title: Response of Two Taiga Shrubs, Lingonberry and Blueberry, to a Variety of Fire Treatment.

Acct. No.: 4381-2-20482

National Goal: I, RPA: 111

State Goal: 4

Termination: 12/31/80
SYs 0.1

Principal Investigator: B. Neiland

Project Description: To determine the response of blueberry and lingonberry to varying degrees of burn severity with respect to sprouting response, seasonal development and response to clipping.

Funding Source:	Salary	Other	Total
U.S. Forest Service	\$4,753	\$ 0	\$4,753

Title: Effects of Harvesting and Fire Upon Nitrogen Mineralization in White Spruce Forests of Central Alaska.

Acct. No.: 4253-2-20499

National Goal: I, RPA: 111

State Goal: 1

Termination: 8/1/81
SYs 0.0

Principal Investigator: K. Van Cleve

Project Description: Establish rates at which nitrogen is mineralized from soil organic matter under natural conditions in white spruce forests. Evaluate potential effects on this rate attributable to commercial timber harvesting.

Funding Source:	Salary	Other	Total
U.S. Forest Service	\$8,991	\$ 0	\$8,991

Title: Forest Soils Research Support Lab.

Acct. No.: 4253-1-00000

National Goal: I, RPA: 111

State Goal: 1

SYs 0.3

Principal Investigator: K. Van Cleve

Project Description: To support research on relationships between forest types within framework of nutrient cycling.

Funding Source:	Salary	Other	Total
State	\$119,593	\$33,084	\$152,677

Title: Research on Forest Soils Using Automated Atomic Absorption Spectrophotometer.

Acct. No.: 4253-2-25908

National Goal: I, RPA: 111

State Goal: 1

Termination: 2/28/81
SYs 0.0

Principal Investigator: K. Van Cleve

Project Description: Principal objective was to obtain and make operational the most recent design of automated spectrophotometer. This machine will increase minimum detection limits by a significant degree for all elements analyzed in the Forest Soils Lab. The automated features on current design spectrophotometers will reduce the time of analysis by at least 50% thus improving the flow analysis through the lab. Overall reduced costs of analysis and increased volume of analysis will be the end result for installation of the new equipment.

Funding Source:	Salary	Other	Total
National Science Foundation	\$ 0	\$46,689	\$46,689

Title: Breeding and Production — Forage Crops for Hay, Pasture, and Other Uses Including Turf.

Acct. No.: AR/SEA WRU 3611-20100, 4386-2-34856

National Goal: I, RPA: 112

State Goal: 1

Termination: 1981
SYs 1.5

Principal Investigator: L. Klebesadel, and R. Taylor

Project Description: Develop new and improved genetic populations, breeding lines, cultivars of forage crops that combine improved yield potentials and favored quality characteristics, including reduced contents of undersirable constituents, with better resistance to pests, tolerance to environmental stress, conservation of scarce resources, and adaptation for mechanized culture.

Funding Sources:	Salary	Other	Total
Federal	\$ 61,700	\$31,150	\$ 92,850
Coop. Agreement	81,764	16,686	98,450
Total	\$143,464	\$47,836	\$191,300

Title: Development and Application of Plant Materials for Forage, Pasture, Turf, and Conservation Uses.

Acct. No.: 4386-1-44388, 4386-2-34884

National Goal: I, RPA: 112

State Goal: 4

Termination: 4/1/81
SYs 0.5

Principal Investigator: W. Mitchell

Project Description: To select superior performing grasses within native species and compare with standard forage grasses in different agricultural regions of the state. To determine response of selections and standards to range of fertilizer treatments and determine forage quality as related to different conditons. To determine applicability of forage and grazing entries for supplemental pasture. To select superior performing grasses for conservation uses in different regions of the state. To select superior performing grasses for turf purposes. To expand upon knowledge base for additional exploratory and collection efforts.

Funding Sources:	Salary	Other	Total
State	\$35,177	\$ 6,375	\$41,552
Hatch	36,100	14,189	50,289
Total	\$71,277	\$20,564	\$91,841

Title: Research on Red Meat – Agronomy/Homer.

Acct. No.: 4391-1-40048

National Goal: I, RPA: 112

State Goal: 1

SYs 0.1

Principal Investigator: W. Mitchell

Project Description: To study management of native bluejoint hayland; compare performance of experimental perennials with standard varieties in view of providing improved species for forage production and grazing; test use of annuals for forage production.

Funding Source:	Salary	Other	Total
State	\$17,743	\$ 4,799	\$22,542

Title: Research on Red Meat — Range/Homer.

Acct. No.: 4391-1-40050

National Goal: I, RPA: 112

State Goal: 1 SYs 0.1

Principal Investigator: J. McKendrick

Project Description: To investigate range-carrying capacities and affects of grazing intensities by cattle on range conditions and trends in the Homer vicinity.

Funding Source:	Salary	Other	Total
State	\$18,258	\$ 5,394	\$23,652

Title: Bison Diet Study

Acct. No.: State: 4386-1-40049

National Goal: I, RPA: 112

State Goal: 1 SYs 0.0

Principal Investigator: J. McKendrick

Project Description: This project is aimed at identifying plant species that are important in the natural diet of the Delta Bison herd. The various range types used by the bison will be identified and the seasonal change in the forage quality of those plants will be measured.

Funding Source:	Salary	Other	Total
State	\$ 2,791	\$12,326	\$15,117

Title: Biology of Musk Oxen on Arctic Ranges.

Acct. No.: 4481-2-34628

National Goal: I, RPA: 112

State Goal: 3

Termination: 4/30/80
SYs 0.1

Principal Investigator: J. McKendrick

Project Description: Evaluating the existing musk ox range at Unalakleet, Alaska for carrying capacity, animal preference and possible range management improvements.

Funding Sources	Salary	Other	Total
National Science Foundation	\$8,066	\$3,443	\$11,509

Title: Resource Mapping.

Acct. No.: 4386-1-40046

National Goal: I, RPA: 113

State Goal: 3

SYs 0.5

Principal Investigator: P. Scorup

Project Description: Landsat imagery, computer colored projects and color infrared aerial photographs are being interpreted and correlated with range yield data to produce range site maps on the Seward Peninsula. These maps will be used to help develop comprehensive range management plans for the reindeer industry.

Funding Source:	Salary	Other	Total
State	\$11,760	\$ 4,506	\$16,266

NATIONAL GOAL II

Protect forests, crops and livestock from insects, diseases and other hazards.

Funding Sources	Salary	Other	Salary Plus Other	Percentage of Total
Federal	\$ 0	\$ 5,300	\$ 5,300	8.6
Grants & Contracts	35,649	20,576	56,225	91.4
TOTAL	\$ 35,649	\$ 25,876	\$ 61,525	100.0

Title: Improved Weed Control Practices for Alaska.

Acct. No.: AR/SEA WRU 3611-20280, 4386-2-34854

National Goal: II, RPA: 209

State Goal: 1

Termination: 1985
SYs 0.0

Principal Investigator: (To be filled)

Project Description: Identify major weed problems in Alaskan agriculture, investigate basic biology of weed species, determine that behavior and fate of herbicides in crops and soils, and devise appropriate, effective control measures consistent with environmental protection.

Funding Sources:	Salaries	Other	Total
Federal	\$ —	\$5,300	\$5,300
Coop. Agreement	0	0	0
Total	\$ 0	\$5,300	\$5,300

Title: Control of Brucellosis in Alaska — Vaccine Testing.

Acct. No.: 4381-2-20509

National Goal: II, RPA: 211

State Goal: 1

Termination: 9/30/80
SYs 0.1

Principal Investigator: R. Dietrich and F. Husby

Project Description: To determine the presence and amount of serum antibodies produced in reindeer that have been experimentally vaccinated against *Brucella suis* type 4. Duration of antibody titers will be determined over a nine month period for each of several vaccines.

Funding Sources:	Salary	Other	Total
USDA — Science & Education Administration	\$14,398	\$ 4,419	\$18,817

Title: Control of Brucellosis in Alaska – Vaccine Testing.

Acct. No.: 4381-2-20491

National Goal: II, RPA: 211

State Goal: 1

Termination: 9/30/81
SYs 0.3

Principal Investigators: R. Dieterich, and F. Husby

Project Description: To test the duration of immunity produced by reindeer vaccinated with *Brucella* antigens. Prevention of infection and abortion of pregnant reindeer experimentally challenged with *Brucella suis* type 4 will constitute successful immunity.

Funding Source:	Salary	Other	Total
USDA – Science & Education Administration	\$21,251	\$16,157	\$37,408

NATIONAL GOAL III

Produce an adequate supply of farm and forest products at decreasing real production costs.

Funding Sources	Salary	Other	Salary Plus Other	Percentage of Total
State	\$ 301,618	\$ 95,682	\$ 397,300	38.1
Hatch	212,737	122,536	335,273	32.2
Hatch Regional	34,405	11,079	45,484	4.4
Federal	46,050	20,200	66,250	6.4
Coop. Agreement	75,426	15,024	90,450	8.6
Grants & Contracts	60,087	47,396	107,483	10.3
TOTAL	\$ 730,323	\$ 311,917	\$ 1,042,240	100.0

Title: Vegetable Improvement for Interior Alaska.

Acct. No.: 4381-1-44418, 4381-2-34881

National Goal: III, RPA: 304

State Goal: 1

Termination: 9/30/82
SYs 0.5

Principal Investigator: D. Dinkel

Project Description: To evaluate and select new cultivars for Interior Alaska. To develop and improve nutrition for standard cultivars under different soil and climatic regimes. To devise cultural practices to improve yield and crop potentials.

Funding Sources:	Salary	Other	Total
State	\$18,812	\$3,477	\$22,289
Hatch	16,619	5,374	21,993
Total	\$35,431	\$8,851	\$44,282

Title: Fruit Improvement.

Acct. No.: 4381-1-44417, 4381-2-34880

National Goal: III, RPA: 304

State Goal: 1

Termination: 9/30/82
SYs 0.2

Principal Investigator: D. Dinkel

Project Description: Fruit cultivars and strains from indigenous and exotic sources will be compared. Improved cultural practices will be devised. Propagation techniques will be devised to increase desirable clones.

Funding Sources:	Salary	Other	Total
State	\$15,091	\$2,875	\$17,966
Hatch	18,617	5,210	23,827
Total	\$33,708	\$8,085	\$41,793

Title: Vegetable Breeding and Production.

Acct. No.: AR/SEA WRU 3611-20020, 4386-2-34855

National Goal: III, RPA: 304

State Goal: 1

Termination: 1981
SYs 0.5

Principal Investigator: C. Dearborn

Project Description: New and improved genetic populations, breeding lines, and varieties of vegetables that combine yield potential and favored quality characters, including reduced contents of undesirable constituents, with better resistance to pests, tolerance to environmental stress, and adaptation for mechanical culture, harvest and handling.

New and improved cultural and management practices that increase vegetable yields, minimize production losses, improve quality attributes and conserve and use source resources efficiently.

Funding Sources:	Salary	Other	Total
Federal	\$13,060	\$5,320	\$18,380
Coop. Agreement	22,904	4,636	27,540
Total	\$35,964	\$9,956	\$45,920

Title: Improved Potato Varieties and Production Practices for Alaska.

Acct. No.: AR/SEA WRU 3611-20020, 4386-2-34855

National Goal: III, RPA: 304

State Goal: 1

Termination: 1980
SYs 0.5

Principal Investigator: C. Dearborn

Project Description: New and improved genetic populations, breeding lines, and varieties of potatoes that combine yield potential and favored quality characters, including reduced contents of undesirable constituents, with better resistance to pests, tolerance to environmental stress, and adaptation for mechanical culture, harvest and handling.

New and improved cultural and management practices that increase potato yields, minimize production losses, improve quality attributes and conserve and use source resources efficiently.

Funding Sources:	Salary	Other	Total
Federal	\$19,590	\$ 7,980	\$27,570
Coop. Agreement	34,356	6,954	41,310
Total	\$53,946	\$14,934	\$68,880

Title: Waste Heat Utilization for Horticultural Crops.

Acct. No.: 4381-1-44422

National Goal: III, RPA: 305

State Goal: 1 SYs 0.0

Principal Investigator: D. Dinkel

Project Description: To investigate and devise practices for the use of reject heat and geothermal heat for vegetables, ornamental, and fruit production. To determine the feasibility of commercial production using reject heat.

Funding Source:	Salary	Other	Total
State	\$33,665	\$10,484	\$44,149

Title: Small Grain Production in the Tanana Valley of Interior Alaska.

Acct. No.: 4381-1-44401, 4381-2-34883

National Goal: III, RPA: 307

State Goal: 1 Termination: 9/30/84
SYs 0.6

Principal Investigator: F. Wooding

Project Description: To develop sufficient technical knowledge, through a broad research program of variety testing and cultural practices to make possible efficient production of barley, oats, and wheat in a subarctic environment; to evaluate triticale as a potential new grain crop; and to determine the quality of Alaska-produced grains.

Funding Sources:	Salary	Other	Total
State	\$39,239	\$ 7,981	\$47,220
Hatch	10,951	7,988	18,939
Total	\$50,190	\$15,969	\$66,159

Title: Improving Rapeseed Production.

Acct. No.: 4381-1-44054, 4381-2-34917

National Goal: III, RPA: 307

State Goal: 1

Termination: 4/30/82
SYs 0.4

Principal Investigator: C. Knight

Project Description: Evaluating rapeseed varieties and cultural practices for interior Alaska. Major emphasis is placed in the use of rapeseed in crop rotations and conservation tillage systems.

Funding Sources:	Salary	Other	Total
State	\$22,758	\$4,505	\$27,263
Hatch	1,640	4,356	5,996
Total	\$24,398	\$8,861	\$33,259

Title: Continuation of Rapeseed Research in Interior Alaska.

Acct. No.: 4381-2-27200

National Goal: III, RPA: 307

State Goal: 1

Termination: 10/31/79
SYs 0.4

Principal Investigator: C. Knight

Project Description: Initial evaluations of rapeseed indicate that this crop is highly adapted to the growing conditions of interior Alaska. Research is concentrated on variety testing and certain key cultural practices to provide sufficient information to make production of rapeseed profitable to farmers. The major cultural practices being studied are: rapeseed rotation, herbicides for weed control, and fertilizer application rates.

Funding Source:	Salary	Other	Total
State of Alaska, Dept. of Commerce & Economic Development	\$ 0	\$1,557	\$1,557

Title: Introduction, Multiplication, Maintenance, Evaluation, and Cataloging of Plant Germ Plasm.

Acct. No.: 4381-2-34939

National Goal: III, RPA: 307

State Goal: 1

Termination: 1985
SYs 0.1

Principal Investigator: F. Wooding

Project Description: To evaluate germ plasm developed in other northern regions of the world for crops currently being grown in Alaska (wheat, oats, barley, and rape-seed); and to evaluate germ plasm for potential new crops for Alaska (flax, safflower, sunflower, buckwheat, millet, and grain amaranth).

Funding Source:	Salary	Other	Total
Hatch Regional	\$4,544	\$3,682	\$8,226

Title: Improved Barley, Oat and Wheat Varieties and Production Practice for Alaska.

Acct. No.: AR/SEA WRU 3611-20050, 4386-2-34858

National Goal: III, RPA: 307

State Goal: 1

Termination: 1980
SYs 0.5

Principal Investigator: R. Taylor

Project Description: New and improved genetic populations, breeding lines, and varieties of small grain that combine yield potentials and favored quality characteristics, including reduced contents of undesirable constituents, with better resistance to pests, tolerance to environmental stress, responsiveness to new cultural and management practices and adaptation for mechanized culture, harvesting, and handling.

New and improved cultural and management practices that increase small grain yields through disease, insect, and weed control; that minimize production losses; and that conserve more efficiently scarce or irreplaceable resources.

Funding Sources:	Salary	Other	Total
Federal	\$13,400	\$ 6,900	\$20,300
Coop. Agreement	18,166	3,434	21,600
Total	\$31,566	\$10,334	\$41,900

Title: Production Cost and Crop Management for Small Grains and Rapeseed in Interior Alaska.

Acct. No.: 4381-1-44409, 4381-2-34890

National Goal: III, RPA: 309

State Goal: 1

Termination: 9/30/81
SYs 0.6

Principal Investigator: C. Lewis

Project Description: Evaluate the effects of various management systems on costs of production of small grains and rapeseed to prepare enterprise reports on economies of size; alternatives in land, labor, and machinery; financial management returns.

Funding Sources:	Salary	Other	Total
State	\$27,875	\$5,114	\$32,989
Hatch	3,363	3,042	6,405
Total	\$31,238	\$8,156	\$39,394

Title: Economic Evaluation of Rapeseed Production in Interior Alaska.

Acct. No.: 4381-2-27211

National Goal: III, RPA: 309

State Goal: 1

Termination: 2/28/80
SYs 0.0

Principal Investigator: C. Lewis

Project Description: Determine the economic factors associated with rapeseed production in rotation with small grains. Consider planting and harvesting techniques, crop rotations, and seed and fertilizer application levels, as well as market price levels.

Funding Source:	Salary	Other	Total
State of Alaska, Dept. of Commerce & Economic Development	\$ 0	\$245	\$245

Title: Nutrition of High-Producing Dairy Cows.

Acct. No.: 4386-2-34877 (NC-115)

National Goal: III, RPA: 311

State Goal: 1

Termination: 9/30/82
SYs 0.1

Principal Investigator: A. Brundage

Project Description: To study the nutritive requirements and intake of both high-producing dairy cattle (in excess of 80 pounds of milk per day and 20,000 pounds of milk per lactation) an average producing dairy cattle (less than 80 pounds of milk per day and 16,000 pounds of milk per lactation) throughout the lactation, including dry periods.

Funding Source:	Salary	Other	Total
Hatch Regional:	\$3,259	\$ 693	\$3,952

Title: Dairy Cattle Breeding and Management for Milk Production in Alaska.

Acct. No.: 4386-1-44392, 4386-2-34886

National Goal: III, RPA: 311

State Goal: 1

Termination: 9/30/82
SYs 0.9

Principal Investigator: A. Brundage

Project Description: To evaluate the the interrelationship of dairy cattle breeding with selection for milk production with selected elements for dairy cattle management in Alaska.

Funding Source:	Salary	Other	Total
State	\$ 67,550	\$ 35,948	\$103,498
Hatch	124,440	75,370	199,810
Total	\$191,990	\$111,318	\$303,308

Title: Improving Dairy Cattle Through Breeding with Special Emphasis on Selection.

Acct. No.: 4386-2-34875 (NC-2)

National Goal: III, RPA: 311

State Goal: 1

Termination: 9/30/82
SYs 0.1

Principal Investigator: A. Brundage

Project Description: To evaluate the effectiveness and the limitation of single trait selection for milk yield among all sires in designed experiments partially replicated at different locations, including measurement of correlated responses in traits of economical and theoretical interest.

Funding Sources:	Salary	Other	Total
Hatch Regional	\$11,416	\$2,990	\$14,408

Title: Utilization of Alaskan Marine By-Products in Rations for Domestic Livestock.

Acct. No.: 4692-2-34742

National Goal: III, RPA: 311

State Goal: 1

Termination: 10/31/80
SYs 0.1

Principal Investigator: F. Husby, and A. Brundage

Project Description: To determine the utilization of marine by-products as protein and energy sources in rations for domestic livestock, including both ruminants and non-ruminants.

Funding Sources:	Salary	Other	Total
Sea-Grant	\$25,179	\$21,984	\$47,163

Title: Utilization of High Protein Cereal Grains Produced in Alaska for Quality Pork Production.

Acct. No.: 4381-1-44385, 4381-2-34887

National Goal: III, RPA: 311

State Goal: 1

Termination: 12/31/82
SYs 0.5

Principal Investigator: F. Husby

Project Description: To determine the nutritional value and quality of high-protein cereal grains produced in northern latitudes for efficient pork production, and to evaluate marine by-products, plant protein or crystalline amino acids as the source of limiting amino acids to improve the protein quality of these cereal grains for growing and finishing pigs.

Funding Sources:	Salary	Other	Total
State	\$15,645	\$ 2,902	\$18,547
Hatch	24,198	15,948	40,146
Total	\$39,843	\$18,850	\$58,693

Title: Red Meat Research.

Acct. No.: 4381-1-44403

National Goal: III, RPA: 311

State Goal: 1

SYS 0.1

Principal Investigator: F. Husby

Project Description: To study the nutritional requirements of beef animals under Alaskan conditions with particular reference to the Kenai Peninsula.

Funding Source:	Salary	Other	Total
State	\$21,449	\$6,688	\$28,137

Title: Red Meat – Animal Science Research/Homer

Acct. No.: 4391-1-40051

National Goal: III, RPA: 311

State Goal: 1

SYs 0.0

Principal Investigator: F. Husby

Project Description: Project objectives are to determine the winter feeding requirements and management, and to determine the feeding value of native bluejoint (*Calamagrostis canadensis*) grasslands during the summer grazing of beef cattle on the Kenai Peninsula. Hay quality on the Lower Kenai Peninsula is often less than the requirement for protein and energy to maintain body weight during the winter. Low quality hay is produced due to vagaries of weather during peak harvesting periods. During 1979, Tanner Crab meal offered free choice as a protein supplement improved voluntary intake of poor quality hay and produced the most economical winter gains of calves fold all forage diets. Three years of summer grazing data indicated that calves can exceed 1.6 lb. per day during a 95-100 day grazing season.

Funding Source:	Salary	Other	Total
State	\$23,132	\$12,714	\$35,846

Title: A Cooperative Study of Red Meat Production on the Kenai Peninsula.

Acct. No.: 4391-2-27141

National Goal: III, RPA: 313

State Goal: 1

Termination: 9/30/79
SYs 0.2

Principal Investigator: F. Husby

Project Description: To determine the economics of winter feeding management for beef cattle on the Kenai Peninsula and to evaluate the native bluejoint (*Calamagrostis canadensis*) grasslands as a rangeland grazing resource for beef cattle production.

Funding Source:	Salary	Other	Total
State of Alaska, Dept. of Natural Resources	\$34,908	\$23,610	\$58,518

Title: Forage Production and Utilization Systems as a Base for Livestock Production.

Acct. No. 4386-2-34876 (NC-114)

National Goal: III, RPA: 313

State Goal: 1

Termination: 9/30/82
SYs 0.2

Principal Investigator: A. Brundage, and W. Mitchell

Project Description: To study production and utilization of annual forages (barley/peas, oats/peas, alfalfa, sweet clover, and winter rye) and perennial forages (Bering hairgrass, bromegrass, and timothy). To study forage quality components as a function of time, species, and morphological parts of plants. To utilize agronomic and animal science data from the project to evaluate economic alternatives within various livestock and crop combinations.

Funding Source:	Salary	Other	Total
Hatch Regional	\$15,186	\$3,714	\$18,900

Title: Alternate Energy Source

Acct. No.: 4386-1-40052, 4386-2-34888

National Goal: III, RPA: 315

State Goal: 1

Termination: 9/30/84
SYs 0.2

Principal Investigator: L. Allen

Project Description: To investigate the availability of renewable energy sources and consider some useful applications to Alaska's high latitude agriculture. To evaluate energy efficient structures as a means of reducing conventional energy use.

Funding Sources:	Salary	Other	Total
State	\$16,402	\$ 2,994	\$19,396
Hatch	12,909	5,248	18,157
Total	\$29,311	\$ 8,242	\$37,553

NATIONAL GOAL IV

Expand the demand for farm and forest products by developing new and improved products and processes and enhancing product quality.

Funding Source	Salary	Other	Total
	0	0	0

NATIONAL GOAL V

Improve efficiency in the marketing system.

Funding Source	Salary	Other	Salary Plus Other	Percentage of Total
Hatch Regional	\$ 6,359	\$ 2,122	\$ 8,481	18.1
Grants & Contracts	5,224	33,087	38,311	81.9
TOTAL	\$ 11,583	\$ 35,209	\$ 46,792	100.0

Title: Protein Content and Nutritional Value of Grains Grown in Alaska.

Acct. No.: 4381-2-27225

National Goal: V, RPA: 501

State Goal: 2

Termination: 6/30/80
SYs 0.1

Principal Investigator: F. Husby and F. Wooding

Project Description: This project is a multidisciplinary approach to studying protein content of grain. Barley will be emphasized over other grains (oats, wheat, rye, and triticale) because it is currently the most important grain crop in Alaska. Agronomic research will be directed toward cultural practices effecting protein content of grain grown in interior Alaska. Animal science research will concentrate on determining the quality and nutritional value of that protein.

Funding Source:	Salary	Other	Total
State of Alaska, Dept. of Commerce & Economic Development	\$2,642	\$5,466	\$8,108

Title: Marketing and Delivery of Quality Cereals and Oilseeds in Domestic and Foreign Markets.

Acct. No.: 4381-2-34918 (NC-151)

National Goal: V, RPA: 503

State Goal: 2

Termination: 9/30/83
SYs 0.1

Principal Investigator: C. Lewis

Project Description: Consider the effect of quality, particularly protein content in barley, on market price. Determine alternate transportation modes for moving grains and oilseeds to tidewater port in Alaska. Determine the effect of different methods of drying on length of possible storage time and grain and oilseed quality.

Funding Source:	Salary	Other	Total
Hatch Regional	\$6,359	\$2,122	\$8,481

Title: Economic Feasibility of Processing and Marketing Fish By-Products at Goodnews Bay.

Acct. No.: 4381-2-21766

National Goal: V, RPA: 509

State Goal: 2

Termination: 9/30/80
SYs 0.0

Principal Investigator: J. Drew

Project Description: At the request of the Bureau of Indian Affairs, a feasibility study considering the potential for processing herring carcasses at Goodnews Bay in Western Alaska was undertaken. The major influencing factor is the high transportation cost out of the region coupled with low demand within the region.

Funding Source:	Salary	Other	Total
Bureau of Indian Affairs	\$2,582	\$27,621	\$30,203

NATIONAL GOAL VI

Expand export markets and assist developing nations.

Funding Sources	Salary	Other	Salary Plus Other	Percentage of Total
State	\$ 25,892	\$ 6,742	\$ 32,634	36.5
Hatch	23,653	9,269	32,922	36.9
Grants & Contracts	7,290	16,494	23,784	26.6
TOTAL	\$ 56,835	\$ 32,505	\$ 89,340	100.0

Title: Analysis of Export Markets for Alaskan Barley and Rapeseed Products.

Acct. No.: 4381-1-44421, 4381-2-34889, 4381-2-27136

National Goal: VI, RPA: 601

State Goal: 2

Termination: 9/30/81
SYs 0.7

Principal Investigator: W. Thomas

Project Description: Identify economic and institutional variables for major foreign markets relative to Alaska barley and related projects. Analyze alternative types of export marketing systems which may be applicable to Alaska. Delineate major transportation alternatives. Assess relationship between market organizations and stability of farm income.

Funding Sources:	Salary	Other	Total
Hatch	\$23,653	\$ 9,269	\$32,922
State	25,892	6,742	32,634
State of Alaska, Dept. of Commerce & Economic Development	0	5,480	5,480
Total	\$49,545	\$21,491	\$71,036

Title: Delta Project: Marketing Research and Coordination.

Acct. No.: 4381-2-27232

National Goal: VI, RPA: 601

State Goal: 2

Termination: 12/31/79
SYs 0.1

Principal Investigator: W. Thomas

Project Description: To provide advisory services to the Alaska Agricultural Action Council on the export marketing of Alaska agricultural commodities.

Funding Sources:	Salary	Other	Total
State of Alaska, Office of the Governor	\$7,290	\$11,014	\$18,304

NATIONAL GOAL VII

Protect consumer health and improve nutrition and well-being of the American people.

Funding Source	Salary	Other	Salary Plus Other	Percentage of Total
CR/SEA Special Grant	\$ 3,292	\$ 2,123	\$ 5,415	100.0

Title: Data Collection, Analysis & Reporting on Alaska Pesticide Use.

Acct. No.: 4386-2-20496

National Goal: VII, RPA: 701

State Goal: 1

Termination: 10/12/80
SYs 0.0

Principal Investigator: W. Mitchell

Project Description: To conduct a statewide survey of pesticide usage in Alaska in cooperation with the U.S.D.A. Statistical Reporting Service.

Funding Source:	Salary	Other	Total
USDA - Science & Education Administration	\$1,977	\$1,026	\$3,003

Title: Pesticide Usage.

Acct. No.: 4386-2-20455

National Goal: VII, RPA: 701

State Goal: 4

Termination: 9/30/80
SYs 0.0

Principal Investigator: W. Mitchell

Project Description: To conduct a statewide survey of pesticide usage in Alaska in cooperation with the U.S.D.A. Statistical Reporting Service.

Funding Source:	Salary	Other	Total
PL-89-106-CR/SEA	\$1,315	\$1,097	\$2,412

NATIONAL GOAL VIII

Assist Rural Americans to improve their level of living.

Funding Source	Salary	Other	Salary Plus Other	Percentage of Total
Title V, RDA	\$ 6,037	\$ 1,003	\$ 7,040	95.9
Grants & Contracts	0	303	303	4.1
TOTAL	\$ 6,037	\$ 1,306	\$ 7,343	100.0

Title: Socioeconomic Evaluation of Reindeer Herding in Relation to Proposed D(2) Lands in Northwestern Alaska.

Acct. No.: 4381-2-27230

National Goal: VIII, RPA: 804

State Goal: 3

Termination: 8/31/79
SYs 0.0

Principal Investigator: W. Thomas

Project Description: Funds from this project will be used to cover the publication costs of a report entitled Reindeer, Eskimos and Land. This publication will detail the results of a study that investigated the historical and contemporary importance of reindeer herding to the culture and economy of northwest Alaska.

Funding Source:	Salary	Other	Total
Alaska Humanities Forum	\$ 0	\$303	\$303

Title: Analysis of Human Dynamics of Rural Alaskan Communities and Implications.

Acct. No.: 4381-2-20494

National Goal: VIII, RPA: 804

State Goal: 3

Termination: 9/30/79
SYs 0.1

Principal Investigator: W. Workman

Project Description: To finalize tax analysis of Native corporation lands and to propose development alternatives for sound development of the reindeer enterprise.

Funding Source:	Salary	Other	Total
Title V, Rural Development Act 1972	\$6,037	\$1,003	\$7,040

NATIONAL GOAL IX

Promote community improvement including development of beauty, recreation, environment, economic opportunity, and public service.

Funding Source	Salary	Other	Salary Plus Other	Percentage of Total
State	\$ 26,913	\$ 4,578	\$ 31,491	5.8
Hatch	49,386	11,881	61,267	11.4
Hatch Regional	7,770	5,553	13,323	2.5
McIntire-Stennis	12,691	3,035	15,726	2.9
Grants & Contracts	178,959	239,248	418,207	77.4
TOTAL	\$ 275,719	\$ 264,295	\$ 540,014	100.0

Title: Soil and Water Conservation in Alaska (Phase 1)

Acct. No.: 4381-2-20510

National Goal: IX, RPA: 901

State Goal: 4

Termination: 1/1/82
SYs 0.3

Principal Investigator: J. Drew

Project Description: Conduct field studies to provide the information needed to develop soil management systems for effectively controlling soil and water erosion in interior Alaska. Major efforts are directed toward developing tillage systems, and residue management systems for controlling soil and water erosion during the production of barley and rapeseed.

Funding Source:	Salary	Other	Total
CR/SEA/USDA	\$15,801	\$35,314	\$51,115

Title: Conduct Tillage Studies Related to Erosion Control and Crop Production in Interior Alaska.

Acct. No.: 4381-2-20500

National Goal: IX, RPA: 901

State Goal: 4

Termination: 9/30/81
SYs 0.1

Principal Investigator: C. Lewis

Project Description: Investigate no-till, minimum tillage, and conventional tillage methods. Monitor and evaluate the effects of each on yields, soil moisture, soil temperature, soil nutrients, and energy requirements. Calculate the costs incurred in grain and oilseed production for each method.

Funding Source:	Salary	Other	Total
U.S. Soil Conservation Service	\$4,955	\$20,478	\$25,433

Title: Environmental Studies Related to Agricultural Production for the Delta Land Management Study – Delta-Clearwater Area.

Acct. No.: 4381-2-20471

National Goal: IX, RPA: 901

State Goal: 4

Termination: 4/30/80
SYs 0.1

Principal Investigator: C. Knight, and C. Lewis

Project Description: Determine the movement of agricultural fertilizers (N, P, K) and pesticides in the soil and water regime and evaluate the effects on water quality. Correlate the data with climatic conditions, i.e. wind velocity, soil moisture, precipitation, snow cover.

Funding Source:	Salary	Other	Total
U.S. Soil Conservation Service	\$5,715	\$39,163	\$44,878

Title: Analysis of Pesticide Residue and Evaluation of Conservation Tillage Practice.

Acct. No.: 4381-2-27197

National Goal: IX, RPA: 901

State Goal: 4

Termination: 11/30/79
SYs 0.0

Principal Investigator: F. Wooding, C. Knight, and C. Lewis

Project Description: Tillage equipment will be tested in research plots to evaluate the effects of various tillage practices on crop production and wind erosion control. Herbicide studies for rapeseed were conducted in 1978, and plant tissue samples were shipped to the IR-4 pesticide lab in East Lansing, Michigan for residue analyses. These analyses will be used in requesting clearance from the Environmental Protection Agency for the use of certain herbicides in rapeseed production.

Funding Source:	Salary	Other	Total
State of Alaska, Office of the Governor	\$ 0	\$7,309	\$7,309

Title: Agricultural Pesticide Research.

Acct. No.: 4381-2-27313

National Goal: IX, RPA: 901

State Goal: 4

Termination: 11/15/81
SYs 0.0

Principal Investigator: C. Knight, and J. McBeath

Project Description: Field studies and laboratory analyses essential for getting EPA clearance for the use of minor-use pesticides on Alaskan agricultural crops. Major emphasis is placed on the control of snowmold on winter wheat with fungicides.

Funding Source:	Salary	Other	Total
State of Alaska, Office of the Governor	\$1,517	\$1,847	\$3,364

Title: Investigations on Revegetation and Correlated Physical and Biological Parameters on Denuded Lands in the Vicinity of Fairbanks, Alaska.

Acct. No.: 4377-2-34869

National Goal: IX, RPA: 901

State Goal: 4

Termination: 9/30/79
SYs 0.1

Principal Investigator: B. Neiland

Project Description: To determine revegetation patterns on treated and untreated borrow pits, roadside cuts, and other denuded lands. To determine physical and biological parameters that correlate with these patterns.

Funding Source:	Salary	Other	Total
McIntire-Stennis	\$4,682	\$1,482	\$6,164

Title: Relationships among Vegetation, Ground Ice, and Disturbances on North-facing Slopes near Fairbanks.

Acct. No.: 4377-2-34870

National Goal: IX, RPA: 901

State Goal: 4

Termination: 9/30/79
SYs 0.1

Principal Investigator: B. Neiland

Project Description: A long-term study of the relationships of forest vegetation and successional stages and ground ice on north-facing slopes, and the effects of mechanical disturbances.

Funding Source:	Salary	Other	Total
McIntire-Stennis	\$8,009	\$1,553	\$9,562

Title: Alder for Mineland Restoration in Cold-Dominated Climates.

Acct. No.: 4386-2-20454

National Goal: IX, RPA: 901

State Goal: 4

Termination: 12/31/79
SYs 0.2

Principal Investigator: W. Mitchell

Project Description: Study methods of establishing Alder on mineland spoil areas as a means of restoring a vegetative cover on denuded areas.

Funding Source:	Salary	Other	Total
USDA, CR/SEA	\$12,113	\$4,859	\$16,972

Title: Revegetation of Alaskan Coal Mine Spoils.

Acct. No.: 4386-2-22429

National Goal: IX, RPA: 901

State Goal: 4

Termination: 8/31/80
SYs 0.1

Principal Investigator: W. Mitchell

Project Description: To determine plant materials appropriate for use on coal mine spoils and disturbances; characterize soils and spoil materials and determine amendments necessary to establish and sustain growth; study natural revegetation processes.

Funding Source:	Salary	Other	Total
U.S. Dept. of Energy	\$9,935	\$9,344	\$19,279

Title: A Problem Analysis for Outdoor Recreation Research in Interior Alaska.

Acct. No.: 4381-2-20497

National Goal: IX, RPA: 902

State Goal: 4

Termination: 12/31/80
SYs 0.1

Principal Investigator: A. Jubenville

Project Description: The project involves reviewing current literature, existing management, on-site analysis of user attitudes, present research efforts, and then synthesizing a research program aimed at river recreation in Alaska. A typical problem analysis has produced an agenda of projects with recommended priorities. Rarely have these had any effect on directing or encouraging research. This project has then assumed that the process is, therefore, more important. The final report offers a process (program) called representative rivers for focussed research and immediate technology transfer to management.

Funding Source:	Salary	Other	Total
U.S. Forest Service	\$6,648	\$2,314	\$8,962

Title: Determinants of Choice in Outdoor Recreation.

Acct. No.: 4381-2-34873 (W-133), 4381-1-44415
4381-2-34891

National Goal: IX, RPA: 902

State Goal: 4

Termination: 9/30/79
SYs 1.0

Principal Investigator: W. Workman, and A. Jubenville

Project Description: To identify and quantify to the extent possible the variables affecting individual choices in outdoor recreation.

Funding Sources:	Salary	Other	Total
Hatch Regional	\$ 7,770	\$ 5,553	\$13,323
State	26,913	4,578	31,491
Hatch	12,600	2,914	15,514
Total	\$47,283	\$13,045	\$60,328

Title: Recreation Plan for the Susitna Hydroelectric Project.

Acct. No. 4381-2-34976

National Goal: IX, RPA: 902

State Goal: 4

Termination: 12/31/80
SYs 0.0

Principal Investigator: A. Jubenville

Project Description: Site suitability studies were conducted the summer of 1980 to determine the best possible recreational development sites. Based on this information, five possible concept plans were developed, ranging from wilderness (no development) to total development. A public survey is now being conducted to find out the preferred level of development to be associated with the reservoir.

Funding Source:	Salary	Other	Total
Terrestrial Environmental Specialists	\$1,855	\$1,311	\$3,166

Title: Mapping Vegetation for the Susitna Hydroelectric Project.

Acct. No.: 4386-2-28891

National Goal: IX, RPA: 903

State Goal: 3

Termination: 6/30/82
SYs 0.1

Principal Investigator: J. McKendrick

Project Description: This project is to provide vegetation base maps for the impact analyses of the proposed Susitna hydroelectric project, and identify ecological factors controlling secondary plant succession relative to moose habitats.

Funding Source:	Salary	Other	Total
Terrestrial Environmental Specialists	\$22,344	\$28,636	\$50,980

Title: Land-Use Analysis of the Susitna Hydroelectric Project.

Acct. No.: 4381-2-34968

National Goal: IX, RPA: 903

State Goal: 3

Termination: 12/31/80
SYs 0.1

Principal Investigator: A. Jubenville

Project Description: The land-use analysis is planned in two phases: oral history (1940 to present) and interviews of landowners about management plans. Use is generally light but concentrated. Both the oral history and agency interviews should be available by January 1, 1981.

Funding Source:	Salary	Other	Total
Terrestrial Environmental Specialist	\$14,530	\$8,914	\$23,444

Title: Alyeska Willow Project.

Acct. No.: 4381-2-28755

National Goal: IX, RPA: 905

State Goal: 4

Termination: 4/30/81
SYs 0.3

Principal Investigator: B. Neiland

Project Description: To investigate techniques for establishment on a large scale of species of willow in arctic Alaska; determine effects on moose browse of removing cuttings, and characterize undisturbed-by-man moose browse stands; and to collect information on natural regeneration of willow in both disturbed and undisturbed sites.

Funding Source:	Salary	Other	Total
Alyeska Pipeline Service Company	\$83,546	\$79,759	\$163,305

Title: Ornamental Plant Improvement for Alaska.

Acct. No.: 4381-2-34879

National Goal: IX, RPA: 906

State Goal: 4

Termination: 9/30/81
SYs 0.1

Principal Investigator: D. Dinkel

Project Description: To improve the quality of living in Alaska through improvement of ornamental plants. To develop propagation techniques for indigenous and hardy exotic ornamental plants, so that a local nursery industry can develop. To provide background knowledge for bedding plant industries and potential cut flower industries.

Funding Source:	Salary	Other	Total
Hatch	\$36,786	\$8,967	\$45,753

ADMINISTRATIVE PROJECTS

**SUMMARY OF ADMINISTRATIVE PROJECT EXPENDITURES
BY SOURCE AND AMOUNT, FY 1980**

Funding Sources	Salary	Other	Salary Plus Other	Percent of Total
State	\$ 265,226	\$ 159,402	\$ 424,628	61.6
Hatch	47,011	29,608	76,619	11.1
Hatch Regional	3,985	5,740	9,725	1.4
Grants & Contracts	122,539	10,774	133,313	19.3
Federal	27,600	17,600	45,200	6.6
TOTAL	\$ 466,361	\$ 223,124	\$ 689,485	100.0

Title: Director's Office.

Acct. No.: 4379-1-44351

Administrative Personnel: J. Drew, S. Restad, C. Hartman

Administrative Function: Overall administration of the Experiment Station.

Funding Source:	Salary	Other	Total
State	\$183,798	\$49,443	\$233,241

Title: Research Support Services.

Acct. No.: 4382-1-00000

Administrative Personnel: J. Drew

Administrative Function: A portion of the overhead received by AES is returned to the University to pay for central support services. This account is charged for that purpose.

Funding Source:	Salary	Other	Total
State	\$ 0	\$35,296	\$35,296

Title: Director's Reserve.

Acct. No.: 4371-1-44352

Administrative Personnel: J. Drew

Administrative Function: Administration of temporarily uncommitted funds and reserves for emergency situations.

Funding Source:	Salary	Other	Total
State	\$1,029	\$13,929	\$14,958

Title: Regional Research Coordination.

Acct. No.: 4381-2-34874 (NC-100)

Administrative Personnel: J. Drew

Administrative Function: Facilitate the planning and coordination of regional research. Simplify accounting and disbursement of travel funds at each participating station for regional research planning and coordination.

Funding Source:	Salary	Other	Total
Hatch Regional	\$3,985	\$5,740	\$9,725

Title: Library Account.

Acct. No.: 4384-1-44384

Administrative Personnel: S. Restad

Administrative Function: Because of the number of staff members located away from the University library, a number of books and journals of special interest are purchased and maintained at the Experiment Station facilities.

Funding Source:	Salary	Other	Total
State	\$ 0	\$8,971	\$8,971

Title: Palmer Administration.

Acct. No.: 4384-1-44395, 4384-2-34885

Administrative Personnel: S. Restad

Administrative Function: Administrative support for research at the Palmer Research Center.

Funding Sources:	Salary	Other	Total
State	\$52,514	\$21,263	\$ 73,777
Hatch	47,011	29,608	\$ 76,619
Total	\$99,525	\$50,871	\$150,396

Title: Title IV SYEP

Acct. No.: 4386-2-27246

Administrative Personnel: S. Restad Termination: 10/1/79

Administrative Function: To provide short-term employment experience to economically disadvantaged youth (14-21 years old) during the summer of 1979. Is a CETA program, Title IV- Summer Youth Employment Program (SYEP).

Funding Source:	Salary	Other	Total
CETA	\$34,952	\$2,370	\$37,322

Title: Title II/Lab Help.

Acct. No.: 4386-2-26816

Administrative Personnel: S. Restad Termination: 10/1/79

Administrative Function: CETA programs are used as a means of employing qualified applicants to give them training in special areas of laboratory work. It provides training for people in the community and provides assistance to the research program that could not be accomplished with present funding.

Funding Source:	Salary	Other	Total
CETA	\$38,307	\$3,034	\$41,341

Title: Title IV YETP Out-of-School.

Acct. No.: 4386-2-26831

Administrative Personnel: S. Restad Termination: 9/30/80

Administrative Function: This project is a CETA funded grant designed to assist youth from 16 - 21 years of age in making the transition from school to work. It serves eligible youth by providing on-the-job training to better qualify them for future employment. The employment of these youths, is a fine supplement to our regular research program.

Funding Source:	Salary	Other	Total
CETA	\$7,722	\$ 610	\$8,332

Title: Senior Employment Program.

Acct. No.: 4386-2-27266

Administrative Personnel: S. Restad

Termination: 6/30/80

Administrative Function: A Senior Community Service Employment Program under the Alaska Dept. of Health and Social Services' Office on Aging, to employ three eligible senior citizens who will assist in maintenance and laboratory duties of the Agricultural Experiment Station. Individuals received training in the lab equipment and experimental methods which ultimately may lead to new careers in the unsubsidized job market.

Funding Source:	Salary	Other	Total
CETA	\$ 364	\$ 221	\$ 585

Title: CETA Title II-D PSE

Acct. No.: 4386-2-27233

Administrative Personnel: S. Restad

Term: 10/1/79

Administrative Function: CETA programs are used as a means of employing qualified applicants to give them training in special areas of laboratory and office work. It provides training for people in the community and provides assistance to the research program that could not have been accomplished with present funding.

Funding Source:	Salary	Other	Total
CETA	\$21,787	\$1,795	\$23,582

Title: Special Project – PSE.

Acct. No.: 4386-2-27237

Administrative Personnel: S. Restad

Termination: 10/1/79

Administrative Function: Administrative support for research at the Palmer Research Center. A special CETA program under Title VI of the Comprehensive Employment and Training Act to have one person assist in the layout and construction of a low-cost solar energy related research structure including a grain dryer with a solar collector to research the effectiveness of solar energy as an energy saving component for grain drying in the climatic condition of South Central Alaska and greenhouses with solar ventilation and heating.

Labor cost involved in the construction of low cost solar energy structures was not available in the 1980 budget. Existing technicians can perform most of the research once the structure was built.

Funding Source:	Salary	Other	Total
CETA	\$7,114	\$ 516	\$7,630

Title: Publications Account.

Acct. No. 4379-1-44383

Administrative Personnel: M. Murray

Administrative Function: The cost of publication is charged whenever possible to the research projects on which they are based. This account contains funds for such publications as Agroborealis and other Experiment Station publications of general interest.

Funding Source:	Salary	Other	Total
State	\$27,885	\$30,500	\$58,385

Title: Personnel Services – Brundage.

Acct. No.: 4386-2-28872

Administrative Personnel: A. Brundage Termination: 6/30/80

Administrative Function: Reimbursement to the Experiment Station for teaching and consulting services of Professor Arthur Brundage as a Visiting Professor at the University of Illinois at Urbana-Champaign.

Funding Source:	Salary	Other	Total
University of Illinois	\$12,293	\$2,228	\$14,521

Title: Federal Program Administration.

Acct. No. WRU 3611-02010

Administrative Personnel: B. Leckwold

Administrative Function: Takes care of all administrative management, and business operations for the Federal employees within the AR/SEA/USDA group in Alaska. Includes preparation of the budget and accountability of all funds. Maintains records on operations cost, utilization and safety inspections of motor vehicles. Advises federal employees on personnel matters and keeps all employees informed on rules and regulations, and procedures which affect their status, both Federal and University regulations. Assigns and accounts for all Federal and non-Federal property assigned to the research program. Maintains annual physical check of inventoriable property.

Funding Source:	Salary	Other	Total
Federal	\$27,600	\$17,600	\$45,200

MAINTENANCE PROJECTS

**SUMMARY OF MAINTENANCE PROJECT EXPENDITURES
BY SOURCE AND AMOUNT, FY 1980**

<u>Funding Source</u>	<u>Salary</u>	<u>Other</u>	<u>Salary Plus Other</u>	<u>Percentage of Total</u>
State	\$ 298,480	\$ 326,078	\$ 624,558	100.0

Title: College Plant, Fairbanks.

Acct. No.: 4380-1-44355

Administrative Personnel: G. Carlson

Administrative Function: The AES Fairbanks farm facility is largely self-sufficient. Aside from electricity, which is provided by U of A, the farm provides its own utilities and services, including water supply, sewerage heating, and even garbage (solid waste) disposal. Most maintenance of facilities is done by farm staff, as well as significant improvements as time permits. The maintenance function operates a support facility and personnel capable of vehicle and machinery maintenance and repair. This repair capability is essential to the operation of the farm function because of the extent and diversity of equipment which must be kept in routine operation. In addition, projects are undertaken to improve the farm facility.

Funding Source:	Salary	Other	Total
State	\$43,973	\$50,821	\$94,794

Title: College Research Services, Fairbanks.

Acct. No.: 4382-1-44408

Administrative Personnel: G. Carlson

Administrative Function: College Research Services is the provision of research support to AES experimental programs at Fairbanks. A significant portion of effort in FY 80 was devoted to the production of feed for the AES animal program. This amounted to putting up baled brome hay from around 50 acres of field, making sure it is dry and stored in barn loft. Approximately 60 ton of barley was raised and harvested from almost 50 acres on the farm. This grain was dried and stored in bins for use by animal program. The barley straw was baled, dried and stored for use as bedding and feed supplement. A part of the farming for sustained feed supply is the ongoing program of clearing new ground, cleaning debris from clearing, and fallowing areas, as well, as continuing to improve field drainage. Additional construction projects are also undertaken.

Funding Source:	Salary	Other	Total
State	\$33,238	\$19,053	\$52,291

Title: Palmer Plant.

Acct. No.: 4381-1-44353

Administrative Personnel: S. Restad

Administrative Function: Administration of the Palmer Research Center physical plant. As an off-campus facility, administration and maintenance of the plant is handled separately from on-campus facilities.

Funding Source:	Salary	Other	Total
State	\$74,271	\$98,526	\$172,797

Title: Matanuska Plant.

Acct. No. 4384-1-44356

Administrative Personnel: F. Perkins

Administrative Function: The Matanuska Farm is an off-campus facility of the Experiment Station which is maintained by the local staff.

Funding Source:	Salary	Other	Total
State	\$65,878	\$105,481	\$171,359

Title: Animal Husbandry Research Support, Matanuska Farm.

Acct. No.: 4386-1-44382

Administrative Personnel: F. Perkins

Administrative Function: Farm operations in support of maintenance of the dairy herd at Matanuska.

Funding Source:	Salary	Other	Total
State	\$34,429	\$17,265	\$51,694

Title: Homer Plant.

Acct. No.: 4390-1-44357

Administrative Personnel: A. Peischel

Administrative Function: Administration of the Homer Research Center Physical Plant.
As an off-campus facility, administration and maintenance of the plant is handled separately from on-campus facilities.

Funding Source:	Salary	Other	Total
State	\$46,691	\$34,932	\$81,623

PUBLIC SERVICE PROJECTS

**SUMMARY OF PUBLIC SERVICE PROJECT EXPENDITURES
BY SOURCE AND AMOUNT, FY 1980**

<u>Funding Source</u>	<u>Salary</u>	<u>Other</u>	<u>Salary Plus Other</u>	<u>Percentage of Total</u>
State	\$ 114,464	\$ 34,703	\$ 149,167	65.0
Grants & Contracts	37,178	42,674	79,852	35.0
TOTAL	\$ 151,642	\$ 77,377	\$ 229,019	100.0

Title: International Committee on Forest Lands of Northern Latitudes.

Acct. No.: 4381-2-20504

Termination: 8/31/82

Principal Investigator: A. Gasbarro

Project Description: Stimulate and facilitate international cooperation on applied forest management among land managers in circumpolar countries. Currently research on forest regeneration is being coordinated among several northern countries including Canada, Finland, Norway, Sweden, and the United States. Several international workshops are involved. One was held in Fairbanks, Alaska, in 1979, another in Umea, Sweden in August 1980. A third will be held in Canada in 1981.

Funding Source:	Salary	Other	Total
U.S. Forest Service	\$1,340	\$6,269	\$7,609

Title: Scientific Coordination of Environmental Studies.

Acct. No.: 4381-2-27201

Termination: 9/15/79

Principal Investigator: R. Weeden

Project Description: Coordination of scientific research conducted by various University of Alaska and other investigators, directly related to Delta agricultural development project being carried out by the State of Alaska.

Funding Source:	Salary	Other	Total
State of Alaska, Department of Natural Resources	\$5,292	\$1,006	\$6,298

Title: Investigating Energy Alternatives for Northern Climates.

Acct. No.: 4381-2-24093

Termination: 11/30/80

Principal Investigator: B. Mickelson and W. Pfisterer

Project Description: To develop a Northern Energy Resource Guide and accompanying teacher's manual through a series of community workshops and programs in the schools. Topics include agriculture; building construction; energy conservation in homes and for business and industry; wind; solar; wood; and hydropower.

Funding Source:	Salary	Other	Total
State of Alaska, Dept. of Health, Education & Welfare	\$24,349	\$21,490	\$45,839

Title: Alaska Agricultural Action Council Trips Made by Agricultural Experiment Station Personnel.

Acct. No.: 4381-2-27293

Termination: 12/31/80

Principal Investigator: W. Thomas

Project Description: These funds permitted Alaska Agricultural Experiment Station personnel to attend meetings of the Alaska Agricultural Action Council to assist in the planning and development of the Pt. McKenzie Agricultural Project; an interim agricultural transportation system from the Interior to tide-water; and the Delta Agricultural Project.

Funding Source:	Salary	Other	Total
State of Alaska, Office of the Governor	\$ 0	\$6,847	\$6,847

Title: Travel by Jay McKendrick to Meetings of Subcommittee on Range Management, National Governors' Association.

Acct. No.: 4386-2-27292

Termination: 12/31/80

Principal Investigator: J. McKendrick

Project Description: To serve as a member of the Staff Advisory Committee for the National Committee for the National Governor's Association subcommittee on rangeland management. This committee addresses federal-state land management goals and activities.

Funding Source:	Salary	Other	Total
State of Alaska, Office of the Governor	\$ 103	\$3,001	\$3,104

Title: Alaska Resources Management Training Center.

Acct. No. 4381-2-28902

Termination: 1/31/81

Principal Investigator: R. Weeden, and T. Gasbarro

Project Description: Develop an organizational and operational plan for offering in-service training to resource technicians and professionals in the private and public sectors.

Funding Source:	Salary	Other	Total
Hewlett Foundation	\$6,094	\$4,061	\$10,155

Title: Soil and Plant Analysis – Laboratory Services.

Acct. No.: 4386-1-44414

Principal Investigator: G. Mitchell

Project Description: Soil and tissue analysis for various research projects, contract analysis and soil testing of farmers' samples for Cooperative Extension Service.

Funding Source:	Salary	Other	Total
State	\$59,946	\$20,415	\$80,361

Title: Matanuska Valley Breeders – Dairy Herd Improvement.

Acct. No.: 4386-1-44361

Principal Investigator: A. Brundage

Project Description: Artificial insemination for dairy industry and dairy herd improvement records.

Funding Source:	Salary	Other	Total
State	\$31,019	\$8,801	\$39,820

Title: Crop Improvement Association.

Acct. No.: 4381-1-44380

Principal Investigator: C. Knight

Project Description: Increase and distribute public varieties and assist in seed certification for Alaska.

Funding Source:	Salary	Other	Total
State	\$7,266	\$1,397	\$8,663

Title: Engineering Problems.

Acct. No.: 4386-1-44379

Principal Investigator: L. Allen

Project Description: Research and public service on special, peculiar, or unique engineering problems and situations encountered in Alaska's agriculture.

Funding Source:	Salary	Other	Total
State	\$16,233	\$4,090	\$20,323